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CONTRA COSTA COUNTY keynotes

HABITAT TYPES & RARE, ENDANGERED, OR THREATENED PLANTS OF CONTRA COSTA COUNTY

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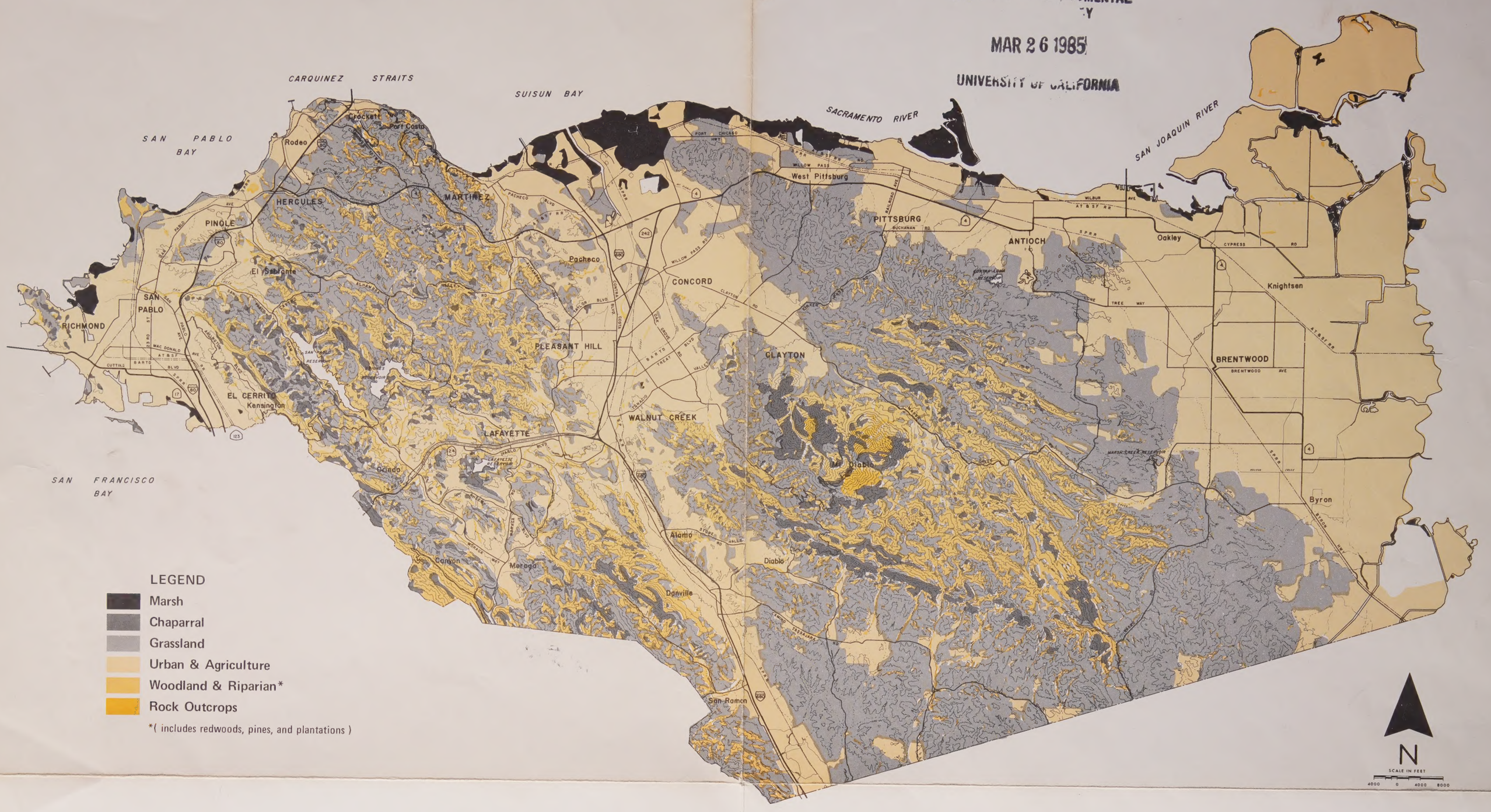

Habitat Types in Contra Costa County

The adjacent chart describes both natural and man-made habitats found in Contra Costa County. Most habitat types are followed by short lists of plants and animals which commonly occur within the types and by a list of examples in the County where these habitats can be found. The characteristic plant and animal list includes species which as a group are indicative of the particular habits but which may not be limited to the noted habitat types. The listed species are not the only organisms which occur within these habitats. Nature does not conveniently divide itself into discrete units. Habitats merge into one another, and no one particular type in one area is identical to the same type found even short distances away. The following lists attempt to breifly illustrate the general habitats that occur in Contra Costa County.

Habitats	Some Characteristic Plants	Some Characteristic Animals	Examples in County
1. Aquatic			
a. Bay and Delta	Phytoplankton, one-celled organisms, green algae.	Numerous arthropods, marine annelid worms. Shellfish: oysters, clams, grass shrimp, crabs. Anadromous fish: white sturgeon, striped bass, Pacific and river lamprey, steelhead trout, king salmon. Resident fish: Pacific sardine, northern anchovie, Pacific herring, Pacific tomcod, shiner sea perch, black rockfish, staghorn sculpin, white catfish, largemouth bass. Waterfowl: western grebe, canvasback, lesser scaup, common goldeneye, American widgeon, pintail.	Carquinez Strait Old River
b. Streams and Ponds	Duckweed, cattails, water lilies, sedges.	Fish: green sunfish, Sacramento hitch, mosquitofish, Sacramento blackfish, pond smelt, Sacramento sucker. Amphibians: California red-legged frog (depleted), yellow-legged frog, Pacific treefrog. Reptiles: western pond turtle, western aquatic garter snake. Waterfowl: snowy egret, American coot, pied-billed grebe, mallard, ruddy duck.	San Pablo Creek Kellogg Creek Marsh Creek Reservoir
2. Mudflats	One-celled and larger green algae, eel grass.	Annelid worms. Many insects. Shellfish: shrimp, clams, barnacles. Shorebirds: American avocet, semipalmated plover, long-billed curlew, least sandpiper, willet.	Point Pinole mudflats Hoffman Marsh mudflats Martinez shore mudflats Richmond Harbor
3. Tidal Marsh	Pickleweed, cordgrass, salt marsh spurry, salt grass, jaumea.	Shellfish: ribbed horse mussel. Amphibians: bullfrog. Birds: Song sparrow (2 endemic subspecies), yellowthroat, long-billed marsh wren California clapper rail (endangered), great blue heron, short-eared owl,northern harrier, white-tailed kite (depleted). Mammals: ornate shrew, salt marsh harvest mouse (endangered), muskrat.	San Pablo and Wildcat Creek marshes Pinole Creek marsh Avon marsh Old River marshes
4. Freshwater Marsh	Common tule, California bulrush, cattails, sedges.	Amphibians: Pacific treefrog, California red-legged frog (depleted), California tiger salamander (depleted). Reptiles: Pacific ringneck snake, western aquatic garter snake. Birds: yellowthroat, red-winged blackbird, great and snowy egrets, great blue heron, American coot, many species of migrating waterfowl. Mammals: ornate shrew, western harvest mouse, California vole, muskrat.	Syndicich Lagoons marshes (Briones Regional Park) Heather Farms Pond marsh
5. Riverine Dunes	Contra Costa wallflower (rare & end.), Suisun aster (r. & e.), Antioch Dunes evening primrose (r. & e.), silver bush lupine.	Reptile: California legless lizard (proposed rare). Insects: at least 6 insect species occur only at the Antioch Dunes. One of them (Langes's metalmark, a butterfly) is considered endangered by the federal government.	Antioch Sand Dunes (once widespread; now limited to a few acres).
6. Grassland (annual species)	Introduced (European) grasses & forbs: fescues, bromes, wild oats, filaree, clover, hairgrass, turkey mullein, wild barley. Native wildflowers: lupines, California poppy, owl's clover.	Reptiles: western fence lizard, western yellow-bellied racer, Pacific gopher snake, California kingsnake. Birds: Horned lark, western meadowlark, California quail, lark sparrow, savannah sparrow, burrowing owl (depleted), American kestrel, red-tailed hawk, turkey vulture. Mammals: deer mouse, western harvest mouse, California vole, Botta pocket gopher, California ground squirrel, black-tailed jackrabbit, striped skunk, black-tailed (mule) deer, badger, coyote, San Joaquin kit fox (rare and end., SE portion of County only).	Briones Hills (lower elevations) Concord Naval Weapons Station Hills southwest of Byron.
7. Scrub/brush-land	Coyote brush, California sage-brush, black sage, bush monkey flower, poison oak, California blackberry, coffeeberry, currant.	Reptiles: coast garter snake, ringneck snake, rubber boa. Birds: common bushtit, wrentit, Bewick's wren, California thrasher, Swainson's thrush, Anna's hummingbird, northern mockingbird, scrub jay. Mammals: opossum, Trowbridge shrew, dusky-footed woodrat, brush rabbit, gray fox, striped skunk.	St. Mary's Peak Lawson Hill (Briones Area) Berkeley-Oakland Hills, at edges of woodland Gudde Ridge (Moraga)
8. Chaparral	Chamise, buckbrush, manzanita, black sage, scrub oak, yerba santa.	Reptiles: western fence lizard, Alameda striped racer (rare), Pacific gopher snake, western rattlesnake, western skink. Birds: poor-will, brown towhee, California quail, band-tailed pigeon, scrub jay Mammals: gray fox, pinon mouse, deer mouse, California pocket mouse, bobcat (depleted).	Las Trampas Ridge Black Hills (Mt. Diablo) Nortonville-Somersville

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Rare, Endangered or Threatened Plants of Contra Costa County

The following is a listing of all rare, endangered or threatened plants known to occur in Contra Costa County. Included with the list are: 1) the status of each species as recognized by the Federal Government (Department of the Interior) and/or the California Native Plant Society, a non-profit group which has compiled a thorough and detailed inventory of all rare and endangered plants in California (abbreviations used are defined at the end of the chart), 2) the area in which each species occurs, 3) the habit in which each species grows, and 4) a brief description of each plant. Species are arranged in taxonomic order as listed in A California Flora, by P. A. Munz and D. D. Keck. More specific information is on file in the County Planning Department.

Plant Family	Scientific Name	Common Name	Status	Locality	Habit	Description
Malvaceae (Mallow)	*Hibiscus californicus*	California hibiscus	R, E(CNPS); E(Fed.)	Lower Sacramento & San Joaquin Rivers.	Moist banks in freshwater marsh.	Annual bush 3'- 6' high; toothed, heart-shaped leaves; showy white or pinkish flowers with crimson centers, each 2½"-4" large.
Linaceae (Flax)	*Hesperolinon Breweri*	Brewer dwarf flax	R, NE(CNPS); T(Fed.)	Inner Coast Ranges, Vaca Mts. to Mt. Diablo.	Grassy or brushy slopes, at least partly on serpentine in chaparral & woodland, 400'-3,300'.	Annual bush 4"-16" high; slender reddish stems; small narrow leaves, tiny yellow flowers with 5 petals.
Cruciferae (Mustard)	*Streptanthus hispidus*	Mt. Diablo jewel-flower	VR, NE(CNPS); T(Fed.)	Mt. Diablo; Contra Costa County only.	Talus or rock outcrops in chaparral, 2,000'- 3,850'.	Very hairy annual 2"- 8" high; compact herb; wedge-shaped leaves; small, 4-petaled, flask-shaped, purple flowers in clusters on stalks 2"-5" long.
Cruciferae (Mustard)	*Tropidocarpum capparideum*	Caper-fruited tropidocarpum	R, NE(CNPS); T(Fed.)	Region about the foot of Mt. Diablo.	Open grassland, alkaline low hills, below 500'.	Slender branched hairy annual herb 8"- 10" high; feather-like leaves, small yellow flowers borne in clusters; each flower has 4 petals.
Cruciferae (Mustard)	*Arabis blepharophylla*	Coast rock-cress	VR, E(CNPS); T(Fed.)	Sonoma to Santa Cruz Co.'s & Mt. Diablo.	Rock outcrops in scrub/ brushland & woodland, below 1,000'.	Perennial herb with few stems, 2"- 8" high, most leaves near ground; quite large purple flowers with 4 petals each.
Cruciferae (Mustard)	*Erysimum capitatum* var. *angustatum*	Contra Costa wallflower	VR, E(CNPS); E(Fed.)	Antioch Sand Dunes.	Riverine dunes.	Biennial leafy-stemmed herb 4"- 32" high; small yellow to orange to purple flowers borne in large cluster at end of stem; each flower has 4 petals.
Polygonaceae (Buckwheat)	*Eriogonum truncatum*	Contra Costa eriogonum	VR, E(CNPS); T(Fed.)	East base of Mt. Diablo.	Dry slopes at edge of chaparral, 1,000'-1,500'.	Erect annual herb, one to several stemmed, 4"-12" high; covered with soft hairs; oblong leaves; tiny rose-colored flowers borne in small clusters.
Ericaceae (Heath)	*Arctostaphylos auriculata*	Mt. Diablo manzanita	R, E(CNPS); E(Fed.)	Mt. Diablo region; Alameda & Contra Costa Co.'s.	Dry slopes of sandstone in chaparral, 500'- 2,000'	Low shrub or tree-like, 8'- 14' high; smooth reddish bark; softly hairy gray-green leaves; tiny urn-shaped white to pinkish flowers.
Ericaceae (Heath)	*Arctostaphylos pallida*	Alameda manzanita	VR, E(CNPS); E(Fed.)	Hills of Alameda & Contra Costa Co.'s	Dry sandy and stony ridges in chaparral, below 2,200'.	Shrub 3'- 12' high; smooth dark red bark; oval, pale green, smooth leaves; tiny urn-shaped white flowers.
Hydrophyllaceae (Waterleaf)	*Phacelia phacelioides*	Mt. Diablo phacelia	R, E(CNPS); T(Fed.)	Inner Coast Ranges; Mt. Diablo to Mt. Hamilton.	Rock outcrops in chap- & woodland, 2,000'- 3,500'.	Densely hairy annual herb 2"- 8" high; oval to narrow leaves; tiny white to pale lavender flowers with violet stripes, flowers borne in clusters on curled stems.
Scrophulariaceae (Figwort)	*Cordylanthus nidularius*	Birds-on-nest	VR, NE(CNPS); E(Fed.)	Mt. Diablo.	Endemic to serpentine chaparral near Deer Flat. (Mt. Diablo)	Low-growing greenish-purple annual herb 4"-16" high; hairy stems; narrow leaves; small white to lilac tubular flowers with purple stripes.
Juglandaceae (Walnut)	*Juglans Hindsii*	California black walnut	R, E(CNPS); E(Fed.)	Lake and Napa Co.'s to Stanislaus & Contra Costa Co.'s.	Along streams and around old Indian Camps.	The Co.'s only native walnut tree, 30'- 60' high; erect unbranched trunk; 15-19 leaflets per foot-long leaf; pendulous male flowers & tiny female flowers; thick-shelled nut.
Onagraceae (Evening-primrose)	*Oenothera deltoides* var. *Howellii*	Antioch Dunes evening primrose	VR, E(CNPS); E(Fed.)	Antioch Sand Dunes	Riverine dunes	Coarse spring or winter annual, usually with erect central stem 2"- 12" high; narrow leaves; flat flowers about 1" across, white, aging pink, 4 petals each.
Thymelaeaceae (Mezereum)	*Dirca occidentalis*	Leatherwood	R, NE(CNPS)	Bay Area hills (western hills in Contra Costa Co.)	Wet slopes of rocky hills in chaparral & woodland, below 1,500'.	Perennial deciduous shrub 2'- 6½' high; tough, leathery bark; small, pale green leaves in clusters; tiny, lemon yellow flowers appear before leaves.
Umbelliferae (Carrot)	*Sanicula saxitilis*	Rock sanicle	VR, E(CNPS); T(Fed.)	Mt. Diablo and Mt. Hamilton.	Chaparral & oak woodland, 3,000'- 3,800'.	Perennial herb with naked stems, 4"-10" high; low fern-like leaves; tiny salmon to straw-colored flowers borne in clusters of 3.
Caprifoliaceae (Honeysuckle)	*Viburnum ellipticum*	Viburnum	R, NE(CNPS)	North Coast Ranges and Fresno and El Dorado Co.'s.	Chaparral and pine forest 1,000'- 4,500'.	Slender stemmed deciduous shrub 3'- 12' high; rounded and coarsely toothed leaves; small white bell-shaped flowers in clusters.
Compositae (Sunflower)	*Helianthella castanea*	Diablo helianthella	R, E(CNPS); T(Fed.)	S.F. Bay Region.	Grassy hillsides in grassland and oak woodland, 500'- 4,000'.	Perennial herb 8"-18" high; large oblong leaves; large, yellow, daisy-like flowers 1¾"- 2" across.
Compositae (Sunflower)	*Holocarpha macradenia*	Santa Cruz tarweed	VR, E(CNPS); E(Fed.)	Marin, Santa Cruz, Alameda, and Contra Co.'s.	Heavy soils on grassy flats in scrub/brushland.	Annual aromatic herb 4"- 20" high; densely leafed; small yellow daisy-like flowers.
Compositae (Sunflower)	*Eriophyllum Jepsonii*	Wooly sunflower	R, NE(CNPS)	Inner Coast Ranges; San Benito to Contra Costa Co.'s.	Dry, rocky, often serpentine slopes in woodland, 1,000'- 3,500'.	Bushy perennial covered with soft white hairs, 1'- 3' high; each leaf divided into 5-9 narrow leaflets; tiny golden daisy-like flowers in clusters.
Compositae (Sunflower)	*Aster chilensis* var. *lentus*	Suisun aster	VR, E(CNPS)	Suisun Bay & Antioch Sand Dunes.	Brackish marshes & riverine dunes.	Perennial herb up to 6' high; narrow leaves; many white to purple daisy-like flowers about ¾" across.
Compositae (Sunflower)	*Erigeron petrophilus*	Fleabane	R, NE(CNPS)	Coast Ranges.	Rock outcrops in chaparral and oak woodland, 1,500'- 7,500'.	Perennial herb 4"-12" high; leafy, narrow leaves; numerous tiny yellow to reddish flowers (discs) with no petals.
Liliaceae (Lily)	*Fritillaria liliaceae*	White fritillary	R, NE(CNPS)	Coastal Hills, Sonoma to Monterey Co.'s.	Heavy soils; open hills, fields in scrub/brushland and redwood forest.	Perennial herb (with bulb) 4"-12" high; stout and succulent; 1-5 bell-shaped flowers per plant; dull white petals with green stripes.
Lilaceae (Lily)	*Calochortus pulchellus*	Mt. Diablo fairy lantern	R, NE(CNPS)	Mt. Diablo region.	Wooded & brushy slopes in chaparral and woodland, above 800'.	Perennial herb (with bulb); erect stem 4"- 12" high; mostly narrow leaves; large, globe-shaped, nodding, greenish-yellow flowers.

Legend for Status Column

E. . . . . Endangered
NE. . . . . Not endangered
R. . . . . Rare
VR. . . . . Very rare
T. . . . . Threatened
(CNPS). . As recognized by the California Native Plant Society
(Fed.). . . As recognized by the federal government (Department of the Interior)

References

1. Fish and Wildlife Service, July 1, 1975, "Federal Register of Threatened or Endangered Fauna or Flora, Vol. 40, No. 127, Part V," U. S. Department of the Interior, Washington, D. C.
2. Munz, P. A. and D. D. Keck, 1959, A California Flora, University of California Press, Berkeley.
3. Powell, W. Robert, ed. 1974, Inventory of Rare and Endangered Vascular Plants of California, California Native Plant Society, Berkeley.

Habitat Types in Contra Costa County (continued)

Habitats	Some Characteristic Plants	Some Characteristic Animals	Examples in County
9. Rock Outcrops	California juniper, birds foot fern, California bay, rock sanicle (rare and end.), Mt. Diablo jewel flower (r. & e.).	Reptiles: western fence lizard, Alameda striped racer (rare), California kingsnake. western rattlesnake. Birds: Rock wren, prairie falcon (depleted). Mammals: pallid bat, bushytail woodrat, spotted skunk, gray fox, mt. lion (depleted), bobcat (depleted).	North Peak (Mt. Diablo) Mt. Diablo Summit
10. Open Oak Woodland	Western County on north-facing slopes: coast live oak, buckeye Central County lowlands: valley oak. Eastern County on south-facing slopes: blue oak, interior live oak digger pine.	Reptiles: western fence lizard, southern alligator lizard, western skink, California kingsnake. Birds: acorn woodpecker, common flicker, plain titmouse, scrub jay, red-tailed hawk, turkey vulture. Mammals: deer mouse, Botta pocket gopher, western gray squirrel, black-tailed (mule) deer, coyote.	Briones Hills (south-facing slopes) Dan Cook Canyon (Mt. Diablo) Deer Valley Las Trampas Hills
11. Broadleaf Evergreen Forest	Coast live oak, California bay, madrone, big-leaf maple, black oak, buckeye, dogwood, snowberry, coffeeberry, poison oak, currant, California hazel, thimbleberry, ninebark.	Amphibians: ensatina, California slender salamander, California newt. Reptiles: northern alligator lizard, Pacific gopher snake, sharp-tailed snake. Birds: plain titmouse, common bushtit, chestnut-backed chickadee, northern (Oregon) junco, mourning dove, band-tailed pigeon, Steller's jay, great-horned owl, screech owl. Mammals: opossum, ornate shrew, longtail weasel, western gray squirrel, dusky-footed woodrat, raccoon, gray fox.	Berkeley-Oakland Hills Briones Hills (north or east facing slopes) Bollinger Canyon (northwest end of canyon)
12. Riparian Woodland	Red willow, arroyo willow, California sycamore, white alder, big-leaf maple, elderberry, box elder, dogwood, poison oak, monkey flower, black walnut, nettle.	Amphibians: California red-legged frog (depleted), ensatina, California slender salamander, Pacific treefrog, arboreal salamander. Reptiles: common garter snake, western aquatic garter snake. Birds: downy woodpecker, black phoebe, Swainson's thrush, Wilson's warbler, warbling vireo. Mammals: ornate shrew, broad-footed mole, California mouse, raccoon, river otter(depleted). Plus a large variety of insects and many other vertebrate visitors (for water and shade).	San Pablo Creek (unchannelized portions) Las Trampas Creek (unchannelized) Mitchell Creek (intermittent stream, semi-riparian) Marsh Creek (intermittent stream, semi-riparian
13. Coast Redwood Forest	Coast redwood, California hazel, canyon gooseberry, huckleberry, poison oak, wax myrtle, red alder, sword fern.	Amphibians: California slender salamander, ensatina. Birds: Steller's jay, brown creeper, winter wren, purple finch. Mammals: opossum, deer mouse, raccoon.	Canyon Redwood Regional Park
14. Plantation	Eucalyptus (blue gum eucalyptus most common species), Monterey pine.	Amphibians: California slender salamander. Reptiles: southern alligator lizard. Birds: brown creeper, mourning dove, northern (Oregon) junco, yellow-bellied sapsucker, olive- sided flycatcher, Steller's jay, great-horned owl.	Berkeley-Oakland Hills Kennedy Grove East side of San Pablo Reservoir
15. Agriculture	Fruit and nut trees (almond, peach), vineyards, grains (barley, wheat), hay (alfalfa), row crops (corn, tomatoes), christmas trees, imported or escaped nuisance plants (mustards, thistles).	Amphibians: western toad. Reptiles: Pacific gopher snake, western fence lizard. Birds: Brewer's blackbird, starling, ring-necked pheasant, yellow-billed magpie, gulls, American kestrel, loggerhead shrike, red-tailed hawk, barn owl. Mammals: house mouse, California vole, Norway rat, Botta pocket gopher, striped skunk.	Many areas throughout the County, particularly concentrated in eastern County
16. Urban	Great variety of non-native species and some domesticated native species.	Amphibians: arboreal salamander, western toad. Reptiles: western fence lizard, coast garter snake, Pacific gopher snake. Birds: Anna's hummingbird, wrentit, house finch, northern (Oregon) junco, robin, northern mockingbird, scrub jay, California quail, barn owl. Mammals: opossum, broad-footed mole, Botta pocket gopher, Norway rat, black rat, house mouse, fox squirrel (introduced), raccoon.	Many areas throughout the County
17. Native Grassland (perennial "bunch grass" species)	Purple needlegrass, foothill needlegrass, bluegrass, fescue species, rye grass, squirreltail.	OTHER HABITATS (vegetation types) WHICH HAVE NO PARTICULAR CHARACTERISTIC ANIMALS	Brooks Island Southeast side Lafayette Reservoir Long Ridge (Mt. Diablo)
18. Serpentine Chaparral	Leather oak, bigberry manzanita, birds-on-nest (rare and endangered).		Southwest slope of Bald Ridge on Mt. Diablo (single location)
19. Dwarfed Woodland	Maul oak (shrub form), interior live oak (shrub), scrub oak mountain mahogany, cream bush toyon, California bay.		Mt. Diablo Summit (single location)
20. Coulter Pine Forest	Coulter pine, coast live oak, digger pine, interior live oak, toyon.		Nortonville-Somersville North slopes of Twin Peaks on Mt. Diablo
21. Knobcone Pine Forest	Knobcone pine, brittle-leaf manzanita, golden chinquapin, chamise.		Flicker Ridge (near Canyon) Inner Black Hills on Mt. Diablo
22. Springs	Rushes, sedges, monkey flower, arroyo willow.		Peachtree Springs (north side Mt. Diablo) Sheepherder's Springs (south side Mt. Diablo)
23. Disturbed	Turkey mullein, pineapple weed, black mustard, yellow star thistle, milk thistle, cheeseweed.		Many areas throughout the the County (road cuts, abandoned cultivation, overgrazed grassland)

References:

1. Berry, William D. and Elizabeth, 1959, Mammals of the San Francisco Bay Region, University of California Press, Berkeley.
2. Bowerman, Mary L., 1944, The Flowering Plants and Ferns of Mt. Diablo, California, The Gillick Press, Berkeley.
3. Bert, H. B. and R. P. Grossenheider, 1964, A Field Guide to the Mammals, Houghton Mifflin Company, Boston.
4. Cheatham, N. L. and R. Haller, Revised 1975, Natural Land and Water Reserve System Habitat Checklist, University of California, Berkeley.
5. Ecoview Environmental Consultants, 1972, The Walnut Creek Drainage; an Environmental Inventory, Army Corps of Engineers.
6. Ingles, Lloyd C., 1965, Mammals of the Pacific States, Stanford University Press, Stanford.
7. Jackson, Rodney, 1973, Educational Land Use Survey, East Bay Municipal Utilities District, Oakland.
8. Jepson, W. L., 1925, A Manual of the Flowering Plants of California, University of California Press, Berkeley.
9. Munz, P. A. and D. D. Keck, 1959, A California Flora, University of California Press, Berkeley.
10. Peterson, Roger Tory, 1969, A Field Guide to Western Birds, Houghton Mifflin Company, Boston.
11. Ruth, Ferdinand S., 1963, Habitat Check List of the Vertebrates of the San Francisco Bay Region, California, Mimeo-type Corporation, Walnut Creek.
12. Smith, Arthur C. 1959, The Natural History of the San Francisco Bay Region, University of California Press, Berkeley.
13. Stebbins, Robert C., 1966, A Field Guide to Western Reptiles and Amphibians, Houghton Mifflin Company, Boston.

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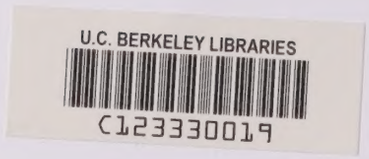

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